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| GLCE | ITEM  NUMBER | ALL STUDENTS | AESWD | SWD | DPS | MICHIGAN | AVERAGE  PERCENT  PROFICIENT | |
| **PROPORTIONALITY AND SIMILARITY** | | | | | | | | |
| **UNDERSTAND DERIVED QUANTITIES** | | | | | | | | |
| ***N.MR.07.02*** *Solve problems involving derived quantities such as density, velocity, and weighted averages.\** | 42 | 26 | 26 | 25 | 22 | 28 | | 42% |
| **RATES, RATIOS, AND PROPORTIONS** | | | | | | | | |
| **N.FL.07.03** Calculate rates of change including speed. | 21 | 68 | 77 | 41 | 67 | 84 | | 54% |
| 22 | 40 | 47 | 22 | 50 | 71 | |
| **N.MR.07.04** Convert ratio quantities between different systems of units, such as feet per second to miles per hour. | 23 | 28 | 29 | 25 | 30 | 38 | | 24% |
| 24 | 20 | 20 | 22 | 23 | 29 | |
| **N.FL.07.05** *Solve proportion problems using such methods as unit rate, scaling, finding equivalent fractions, and solving the proportion equation a/b = c/d; know how to see patterns about proportional*  *situations in tables.\** | 25 | 15 | 15 | 13 | 18 | 30 | | 25% |
| 26 | 35 | 35 | 38 | 35 | 54 | |
| **DIRECTLY PROPORTIONAL, LINEAR** | | | | | | | | |
| **A.PA.07.01** *Recognize when information given in a table, graph, or formula suggests a directly proportional or linear relationship.\** | 1 | 75 | 79 | 63 | 80 | 86 | | 61% |
| 10 | 47 | 49 | 41 | 52 | 65 | |
| **A.RP.07.02** Represent directly proportional and linear relationships using verbal descriptions, tables, graphs, and formulas, and translate among these representations. | 2 | 31 | 35 | 19 | 44 | 61 | | 26% |
| 3 | 20 | 23 | 13 | 21 | 30 | |
| **A.PA.07.03** *Given a directly proportional or other linear situation, graph and interpret the slope and intercept(s) in terms of the original situation; evaluate y = mx + b for specific x values, e.g., weight vs. volume of water, base cost plus cost per unit.\** | 27 | 32 | 35 | 25 | 42 | 65 | | 37% |
| 28 | 41 | 46 | 28 |  | 73 | |
| **A.PA.07.04** For directly proportional or linear situations, solve applied problems using graphs and equations, e.g., the heights and volume of a container with uniform cross-section; height of water in a tank being filled at a constant rate; degrees Celsius and degrees Fahrenheit; distance and time under constant speed. | 29 | 47 | 50 | 38 | 51 | 70 | | 36% |
| 30 | 25 | 22 | 34 | 36 | 50 | |
| GLCE | ITEM NUMBER | ALL STUDENTS | AESWD | SWD | DPS | MICHIGAN | | AVERAGE  PERCENT  PROFICIENT |
| **PROPORTIONALITY AND SIMILARITY (CONTINUED)** | | | | | | | | |
| **DIRECTLY PROPORTIONAL, LINEAR (CONTINUED)** | | | | | | | | |
| **A.PA.07.05** *Recognize and use directly proportional relationships of the form y = mx, and distinguish from linear relationships of the form y = mx + b, b non-zero; understand that in a directly proportional relationship between two quantities one quantity is a constant multiple of the other quantity.\** | 31 | 27 | 32 | 13 | 48 | 68 | | 24% |
| 32 | 20 | 23 | 13 | 27 | 37 | |
| **A.PA.07.09** Recognize inversely proportional relationships in contextual situations; know that quantities are inversely proportional if their product is constant, e.g., the length and width of a rectangle with fixed area, and that an inversely proportional relationship is  of the form y = k/x where k is some non-zero number. | 43 | 19 | 21 | 16 | 23 | 32 | | 19% |
| **A.RP.07.10** Know that the graph of y = k/x is not a line, know its shape, and know that it crosses neither the x nor the y-axis. | 41 | 27 | 30 | 19 | 36 | 29 | | 27% |
| **SIMILAR POLYGONS** | | | | | | | | |
| **G.TR.07.03** Understand that in similar polygons, corresponding angles are congruent and the ratios of corresponding sides are equal; understand the concepts of similar figures and scale factor. | 33 | 36 | 39 | 28 | 52 | 64 | | 32% |
| 34 | 28 | 29 | 25 | 29 | 41 | |
| **G.TR.07.04** Solve problems about similar figures and scale drawings. | 35 | 27 | 27 | 25 | 34 | 46 | | 29% |
| 36 | 31 | 34 | 25 | 33 | 41 | |
| **G.TR.07.05** Show that two triangles are similar using the criteria: corresponding angles are congruent (AAA similarity); the ratios of two pairs of corresponding sides are equal and the included angles are congruent (SAS similarity); ratios of all pairs of corresponding sides are equal (SSS similarity); use these criteria to solve problems and to justify arguments. | 37 | 19 | 18 | 22 | 26 | 38 | | 21% |
| 38 | 22 | 23 | 19 | 25 | 36 | |
| **G.TR.07.06** Understand and use the fact that when two triangles are similar with scale factor of r, their areas are related by a factor of r2. | 39 | 6 | 7 | 6 | 14 | 26 | | 6% |
| 40 | 6 | 4 | 13 | 8 | 15 | |
| GLCE | ITEM NUMBER | ALL STUDENTS | AESWD | SWD | DPS | MICHIGAN | | AVERAGE  PERCENT  PROFICIENT |
| **FUNCTIONS, LINEAR EQUATIONS** | | | | | | | | |
| **REPRESENT LINEAR FUNCTIONS** | | | | | | | | |
| **A.PA.07.06** Calculate the slope from the graph of a linear function as the ratio of “rise/run” for a pair of points on the graph, and express the answer as a fraction and a decimal; understand that linear functions have slope that is a constant rate of change. | 11 | 33 | 33 | 34 | 34 | 46 | | 36% |
| 12 | 39 | 40 | 34 | 38 | 49 | |
| **A.PA.07.07** Represent linear functions in the form y = x + b, y = mx, and y = mx + b, and graph, interpreting slope and y-intercept. | 45 | 21 | 16 | 34 | 27 | 37 | | 21% |
| **A.FO.07.08** *Find and interpret the x and/or y intercepts of a linear equation or function. Know that the solution to a linear equation of the form ax+b=0 corresponds to the point at which the graph of y=ax+b crosses the x axis.\** | 46 | 27 | 27 | 25 | 30 | 35 | | 27% |
| **PROPERTIES OF REALS IN ALGEBRA** | | | | | | | | |
| **A.PA.07.11** Understand and use basic properties of real numbers: additive and multiplicative identities, additive and multiplicative inverses, commutativity, associativity, and the distributive property of multiplication over addition. | 13 | 38 | 38 | 38 | 47 | 54 | | 27% |
| 14 | 16 | 12 | 28 | 21 | 45 | |
| **EXPRESSIONS AND EQUATIONS** | | | | | | | | |
| **A.FO.07.12** *Add, subtract, and multiply simple algebraic expressions of the first degree, e.g., (92x + 8y) – 5x + y, or x(x+2) and justify using properties of real numbers.\** | 15 | 32 | 35 | 25 | 35 | 34 | | 24% |
| 16 | 15 | 10 | 28 | 21 | 26 | |
| **A.FO.07.13** From applied situations, generate and solve linear equations of the form ax + b = c and ax + b = cx + d, and interpret solutions. | 47 | 25 | 25 | 25 | 26 | 40 | | 25% |
| **RECOGNIZE IRRATIONAL NUMBERS** | | | | | | | | |
| **N.MR.07.06** Understand the concept of square root and cube root, and estimate using calculators. | 44 | 23 | 18 | 34 | 37 | 51 | | 23% |
| **COMPUTE WITH RATIONAL NUMBERS** | | | | | | | | |
| **N.FL.07.07** Solve problems involving operations with integers. | 4 | 23 | 24 | 19 | 30 | 57 | | 36% |
| 5 | 48 | 53 | 34 | 56 | 73 | |
| GLCE | ITEM NUMBER | ALL STUDENTS | AESWD | SWD | DPS | MICHIGAN | | AVERAGE  PERCENT  PROFICIENT |
| **FUNCTIONS, LINEAR EQUATIONS (CONTINUED)** | | | | | | | | |
| **COMPUTE WITH RATIONAL NUMBERS (CONTINUED)** | | | | | | | | |
| **N.FL.07.08** *Add, subtract, multiply, and divide positive and negative rational numbers fluently.\** | 6 | 44 | 47 | 38 | 46 | 73 | | 33% |
| 7 | 21 | 21 | 22 | 25 | 44 | |
| **N.FL.07.09** Estimate results of computations with rational numbers. | 8 | 37 | 34 | 47 | 36 | 43 | | 39% |
| 9 | 41 | 45 | 31 | 49 | 60 | |
| **REPRESENT AND INTERPRET DATA** | | | | | | | | |
| **D.RE.07.01** Represent and interpret data using circle graphs, stem and leaf plots, histograms, and box-and-whisker plots, and select appropriate representation to address specific questions. | 17 | 61 | 66 | 47 | 61 | 73 | | 44% |
| 18 | 26 | 27 | 25 | 44 | 55 | |
| **D.AN.07.02** Create and interpret scatter plots and find line of best fit; use an estimated line of best fit to answer questions about the data. | 19 | 25 | 24 | 28 | 34 | 43 | | 30% |
| 20 | 35 | 42 | 13 | 45 | 65 | |
| **CONNECTIONS** | | | | | | | | |
| **COMPUTE STATISTICS** | | | | | | | | |
| **D.AN.07.03** Calculate and interpret relative frequencies and cumulative frequencies for given data sets. | 48 | 42 | 48 | 25 | 58 | 72 | | 42% |
| **D.AN.07.04** Find and interpret the median, quartiles, and interquartile range of a given set of data. | 49 | 17 | 17 | 16 | 25 | 36 | | 17% |